



General

Guideline Title

Brain injury rehabilitation in adults. A national clinical guideline.

Bibliographic Source(s)

Scottish Intercollegiate Guidelines Network (SIGN). Brain injury rehabilitation in adults. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2013 Mar. 68 p. (SIGN publication; no. 130). [193 references]

Guideline Status

This is the current release of the guideline.

Any updates to the guideline that result from the availability of new evidence will be noted on the [Scottish Intercollegiate Guidelines Network \(SIGN\) Web site](#) .

Regulatory Alert

FDA Warning/Regulatory Alert

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- [January 10, 2013 – Zolpidem](#) . The United States Food and Drug Administration (FDA) is notifying the public of new information about zolpidem, a widely prescribed insomnia drug. FDA recommends that the bedtime dose be lowered because new data show that blood levels in some patients may be high enough the morning after use to impair activities that require alertness, including driving. This announcement focuses on zolpidem products approved for bedtime use, which are marketed as generics and under the brand names Ambien, Ambien CR, Edluar, and Zolpimist.

Recommendations

Major Recommendations

Note from the Scottish Intercollegiate Guidelines Network (SIGN) and National Guideline Clearinghouse (NGC): In addition to these evidence-based recommendations, the guideline development group also identifies points of best clinical practice in the full-text guideline document.

The grades of recommendations (A-D) and levels of evidence (1++, 1+, 1-, 2++, 2+, 2-, 3, 4) are defined at the end of the "Major Recommendations" field.

Assessment and Treatment of Mild Brain Injury

Epidemiology and Definitions

B - The diagnosis of mild traumatic brain injury (MTBI) should be made according to WHO task force operational criteria, subject to clinical judgement when complicating factors are present (e.g., skull fracture, seizures, or a haematoma).

Prognostic Factors in Adults

Non-Specific Symptoms

B - Patients presenting with non-specific symptoms following MBTI should be reassured that the symptoms are benign and likely to settle within three months.

Cognitive Deficits

B - Referral for cognitive (psychometric) assessment is not routinely recommended after MTBI.

Mood and Anxiety Disorders

C - As post-traumatic stress disorder (PTSD) and other psychiatric disorders may contribute to the overall burden of symptoms in some individuals following MTBI, particularly where problems persist for more than three months, mental state should be routinely examined with an emphasis on symptoms of phobic avoidance, traumatic re-experiencing phenomena (e.g., flashbacks and nightmares) and low mood.

Substance Misuse

D - Assessment and consideration of pre-existing health variables such as previous neurological disorders and substance misuse should be carried out for all patients with MTBI.

Intracranial Pathology

B - Cranial imaging is not routinely recommended for the assessment of post-acute mild brain injury, but should be considered in an atypical case.

Treatment of Mild Traumatic Brain Injury

Educational Interventions

C - All patients should be offered reassurance about the nature of their symptoms and advice on gradual return to normal activities after uncomplicated mild traumatic brain injury.

Pharmacological Interventions

C - Antidepressants may be considered for symptom relief after MTBI.

Psychological Interventions

C - Referral for cognitive behavioural therapy following MTBI may be considered in patients with persistent symptoms who fail to respond to reassurance and encouragement from a general practitioner after three months.

Physical Rehabilitation and Management

Gait, Balance and Mobility

Treadmill Training and Gait

C - Patients with traumatic brain injury (TBI) receiving gait training should not undergo treadmill training in preference to conventional overground training.

Task-Specific and Repetitive Task Training

B - Repetitive task-oriented activities are recommended for improving functional ability, such as sit-to-stand or fine motor control.

Spasticity and Muscle Tone

Splints, Casts, Stretches and Orthoses

C - Casts, splints and passive stretching may be considered in cases where contracture and deformity are progressive.

Botulinum Neurotoxin Therapy (BoNT)

B - BoNT may be considered to reduce tone and deformity in patients with focal spasticity.

Oral Anti-Spasticity Medication

D - Oral baclofen or tizanidine may be considered for treatment of spasticity.

Cognitive Rehabilitation

Memory

D - Patients with memory impairment after TBI should be trained in the use of compensatory memory strategies with a clear focus on improving everyday functioning rather than underlying memory impairment.

- For patients with mild-moderate memory impairment both external aids and internal strategies (e.g., use of visual imagery) may be used.
- For those with severe memory impairment external compensations with a clear focus on functional activities is recommended.

B - Learning techniques that reduce the likelihood of errors being made during the learning of specific information should be considered for people with moderate-severe memory impairment.

Attention

C - Patients with attention impairment in the post-acute phase after TBI should be given strategy training relating to the management of attention problems in personally relevant functional situations.

Executive Functioning

B - Patients with TBI and deficits in executive functioning should be trained in meta-cognitive strategies relating to the management of difficulties with planning, problem solving and goal management in personally relevant functional situations.

Comprehensive/Holistic Treatment Programmes

D - In the post-acute setting interventions for cognitive deficits should be applied in the context of a comprehensive/holistic neuropsychological rehabilitation programme. This would involve an interdisciplinary team using a goal-focused programme which has the capacity to address cognitive, emotional and behavioural difficulties with the aim of improving functioning in meaningful everyday activities.

Rehabilitation of Behavioural and Emotional Disorders

Challenging or Aggressive Behaviour

B - Propranolol or pindolol may be considered as a first line treatment option for moderate levels of agitation/aggression.

Depression and Anxiety

B - Cognitive behavioural therapy should be considered for the treatment of acute stress disorder following MTBI.

B - Cognitive behavioural therapy should be considered for the treatment of anxiety symptoms following mild to moderate TBI, as part of a broader neurorehabilitation programme.

Communication and Swallowing

Managing Communication Problems

D - Patients with communication deficits post TBI should be referred to speech and language therapy for assessment and management of their communication impairments.

Assessing and Managing Dysphagia

D - Instrumental assessment of dysphagia in patients post TBI should be considered where:

- Bedside assessment indicates possible pharyngeal stage problems (which would potentially include the aspiration of food and fluid into the lungs)
- The risks of proceeding on the basis of the bedside assessment outweigh the possible benefits (the patient at very high risk of choking or aspiration if fed orally), and
- The bedside assessment alone does not enable a sufficiently robust clinical evaluation to permit the drawing up of an adequate plan for swallowing therapy.

Management of the Patient in the Minimally Conscious or Vegetative State

Assessing Changes in Conscious Level

B - The Coma Recovery Scale - Revised should be used to assess patients in states of disordered consciousness.

Pharmacological Therapy

B - Amantadine may be considered as a means of facilitating recovery of consciousness in patients following severe brain injury.

Service Delivery

Inpatient Care

B - For optimal outcomes, higher intensity rehabilitation featuring early intervention should be delivered by specialist multidisciplinary teams.

Discharge Planning

D - Planned discharge from inpatient rehabilitation to home for patients who have experienced an acquired brain injury (ABI) provides beneficial outcomes and should be an integrated part of treatment programmes.

Pre-Discharge

D - Pre-discharge home visits should be undertaken for patients who require them.

Levels of Evidence

1++: High quality meta-analyses, systematic reviews of randomised controlled trials (RCTs), or RCTs with a very low risk of bias

1+: Well-conducted meta-analyses, systematic reviews, or RCTs with a low risk of bias

1-: Meta-analyses, systematic reviews, or RCTs with a high risk of bias

2++: High quality systematic reviews of case control or cohort studies

High quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal

2+: Well-conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal

2-: Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal

3: Non-analytic studies (e.g., case reports, case series)

4: Expert opinion

Grades of Recommendation

Note: The grade of recommendation relates to the strength of the evidence on which the recommendation is based. It does not reflect the clinical importance of the recommendation.

A: At least one meta-analysis, systematic review, or randomised controlled trial (RCT) rated as 1++ and directly applicable to the target population; or

A body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results

B: A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results;
or

Extrapolated evidence from studies rated as 1++ or 1+

C: A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results;
or

Extrapolated evidence from studies rated as 2++

D: Evidence level 3 or 4; or

Extrapolated evidence from studies rated as 2+

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

- Acquired brain injury (ABI)
- Traumatic brain injury (TBI)
 - Mild
 - Moderate
 - Severe

Note: ABI implies damage to the brain that was sudden in onset and occurred after birth and the neonatal period. TBI may be defined as a traumatically induced structural injury and/or physiological disruption of brain function as a result of an external force that is indicated by new onset or worsening of clinical signs.

Guideline Category

Counseling

Management

Rehabilitation

Treatment

Clinical Specialty

Family Practice

Geriatrics

Internal Medicine

Neurology

Nursing

Physical Medicine and Rehabilitation

Psychiatry

Psychology

Speech-Language Pathology

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Nurses

Occupational Therapists

Patients

Physical Therapists

Physician Assistants

Physicians

Psychologists/Non-physician Behavioral Health Clinicians

Speech-Language Pathologists

Guideline Objective(s)

To provide recommendations about post-acute assessment for adults over 16 years of age with brain injuries and interventions for cognitive, communicative, emotional, behavioural and physical rehabilitation

Target Population

Adults over 16 years of age with brain injuries

Interventions and Practices Considered

1. Assessment and treatment of mild brain injury (MTBI)
 - Diagnosis according to World Health Organization (WHO) task force operational criteria
 - Reassurance that symptoms are benign and will settle within 3 months
 - Mental state should be routinely examined for signs of post-traumatic stress disorder (PTSD)
 - Assessment and consideration of pre-existing health variables
 - Antidepressants
 - Cognitive behavioral therapy
2. Physical rehabilitation and management
 - Repetitive task-oriented activities
 - Casts, splints, and passive stretching
 - Botulinum neurotoxin (BoNT) therapy
 - Oral baclofen or tizanidine
3. Cognitive rehabilitation
 - Compensatory memory strategy training
 - Comprehensive/holistic neuropsychological rehabilitation programme by an interdisciplinary team
4. Rehabilitation of behavioural and mental disorders
 - Propranolol or pindolol

- Cognitive behavioural therapy
- 5. Communication and swallowing
 - Speech and language therapy
 - Assessing and managing dysphagia
- 6. Vocational rehabilitation
- 7. Management of the patient in the minimally conscious or vegetative state
 - Assessment with the Coma Recovery Scale - Revised
 - Amantadine
- 8. Service delivery
 - Early intervention delivered by specialist multidisciplinary teams
 - Planned discharge
 - Community rehabilitation
 - Telemedicine

Major Outcomes Considered

- Physical, cognitive, emotional and behavioural difficulties
- Communication and swallowing difficulties
- Vocational rehabilitation
- Adverse effects of medications

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Systematic Literature Review

The evidence base for this guideline was synthesised in accordance with Scottish Intercollegiate Guidelines Network (SIGN) methodology. A systematic review of the literature was carried out using an explicit search strategy devised by a SIGN Evidence and Information Scientist. Databases searched include Medline, Embase, Cinahl, PsycINFO and the Cochrane Library. The year range covered was 1990-2011. Internet searches were carried out on various websites including the US National Guidelines Clearinghouse. The main searches were supplemented by material identified by individual members of the development group. Each of the selected papers was evaluated by two members of the group using standard SIGN methodological checklists before conclusions were considered as evidence.

Literature Search for Patient Issues

At the start of the guideline development process, a SIGN Evidence and Information Scientist conducted a literature search for qualitative and quantitative studies that addressed patient issues of relevance to rehabilitation of patients with a brain injury. Databases searched include Medline, Embase, Cinahl and PsycINFO, and the results were summarised and presented to the guideline development group.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Levels of Evidence

1++: High quality meta-analyses, systematic reviews of randomised controlled trials (RCTs), or RCTs with a very low risk of bias

1+: Well-conducted meta-analyses, systematic reviews, or RCTs with a low risk of bias

1-: Meta-analyses, systematic reviews, or RCTs with a high risk of bias

2++: High quality systematic reviews of case control or cohort studies

High quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal

2+: Well-conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal

2-: Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal

3: Non-analytic studies (e.g., case reports, case series)

4: Expert opinion

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review

Description of the Methods Used to Analyze the Evidence

Once papers have been selected as potential sources of evidence, the methodology used in each study is assessed to ensure its validity. The result of this assessment will affect the level of evidence allocated to the paper, which will in turn influence the grade of recommendation that it supports.

The methodological assessment is based on a number of key questions that focus on those aspects of the study design that research has shown to have a significant influence on the validity of the results reported and conclusions drawn. These key questions differ between study types, and a range of checklists is used to bring a degree of consistency to the assessment process. Scottish Intercollegiate Guidelines Network (SIGN) has based its assessments on the MERGE (Method for Evaluating Research and Guideline Evidence) checklists developed by the New South Wales Department of Health, which have been subjected to wide consultation and evaluation. These checklists were subjected to detailed evaluation and adaptation to meet SIGN's requirements for a balance between methodological rigour and practicality of use.

The assessment process inevitably involves a degree of subjective judgment. The extent to which a study meets a particular criterion - e.g., an acceptable level of loss to follow up - and, more importantly, the likely impact of this on the reported results from the study will depend on the clinical context. To minimise any potential bias resulting from this, each study must be evaluated independently by at least two group members. Any differences in assessment should then be discussed by the full group. Where differences cannot be resolved, an independent reviewer or an experienced member of SIGN Executive staff will arbitrate to reach an agreed quality assessment.

Evidence Tables

Evidence tables are compiled by SIGN executive staff based on the quality assessments of individual studies provided by guideline development group members. The tables summarise all the validated studies identified from the systematic literature review relating to each key question. They are presented in a standard format to make it easier to compare results across studies, and will present separately the evidence for each outcome measure used in the published studies. These evidence tables form an essential part of the guideline development record and ensure that the basis of the guideline development group's recommendations is transparent.

Additional details can be found in the companion document titled "SIGN 50: A Guideline Developers' Handbook." (Edinburgh [UK]: Scottish Intercollegiate Guidelines Network. [SIGN publication; no. 50]), available from the [SIGN Web site](#) .

Methods Used to Formulate the Recommendations

Description of Methods Used to Formulate the Recommendations

Synthesising the Evidence

Guideline recommendations are graded to differentiate between those based on strong evidence and those based on weak evidence. This judgement is made on the basis of an (objective) assessment of the design and quality of each study and a (perhaps more subjective) judgement on the consistency, clinical relevance and external validity of the whole body of evidence. The aim is to produce a recommendation that is evidence-based, but which is relevant to the way in which health care is delivered in Scotland and is therefore implementable.

It is important to emphasise that the grading does not relate to the importance of the recommendation, but to the strength of the supporting evidence and, in particular, to the predictive power of the study designs from which that data was obtained. Thus, the grading assigned to a recommendation indicates to users the likelihood that, if that recommendation is implemented, the predicted outcome will be achieved.

Considered Judgement

It is rare for the evidence to show clearly and unambiguously what course of action should be recommended for any given question. Consequently, it is not always clear to those who were not involved in the decision making process how guideline developers were able to arrive at their recommendations, given the evidence they had to base them on. In order to address this problem, SIGN has introduced the concept of considered judgement.

Under the heading of considered judgement, guideline development groups summarise their view of the total body of evidence covered by each evidence table.

Each guideline group considers the following factors:

- Quantity, quality, and consistency of evidence
- External validity (generalisability) of studies
- Directness of application to the target population for the guideline
- Any evidence of potential harms associated with implementation of a recommendation
- Clinical impact (i.e., the extent of the impact on the target patient population, and the resources needed to treat them in accordance with the recommendation)
- Whether, and to what extent, any equality groups may be particularly advantaged or disadvantaged by the recommendations made
- Implementability (i.e., how practical it would be for the National Health Service [NHS] Scotland to implement the recommendation)

Then the group is asked to summarise its view on all of these issues, both the quality of the evidence and its potential impact, before making a graded recommendation. This summary should be succinct, and taken together with its views of the level of evidence represent the first draft of the text that will appear in the guideline immediately before a graded recommendation.

Additional detail about SIGN's process for formulating guideline recommendations is provided in Section 6 of the companion document titled "SIGN 50: A Guideline Developers' Handbook." (Edinburgh [UK]: Scottish Intercollegiate Guidelines Network. [SIGN publication; no. 50], available from the [SIGN Web site](#) .

Rating Scheme for the Strength of the Recommendations

Grades of Recommendation

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A body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results

B: A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results;

or

Extrapolated evidence from studies rated as 1++ or 1+

C: A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results;
or

Extrapolated evidence from studies rated as 2++

D: Evidence level 3 or 4; or

Extrapolated evidence from studies rated as 2+

Cost Analysis

The guideline developers reviewed published cost analyses.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

The national open meeting is the main consultative phase of Scottish Intercollegiate Guidelines Network (SIGN) guideline development.

Peer Review

All SIGN guidelines are reviewed in draft form by independent expert referees, who are asked to comment primarily on the comprehensiveness and accuracy of interpretation of the evidence base supporting the recommendations in the guideline. A number of general practitioners (GPs) and other primary care practitioners also provide comments on the guideline from the primary care perspective, concentrating particularly on the clarity of the recommendations and their assessment of the usefulness of the guideline as a working tool for the primary care team. The draft is also sent to at least two lay reviewers in order to obtain comments from the patient's perspective.

It should be noted that all reviewers are invited to comment as individuals, not as representatives of any particular organisation or group. Corporate interests, whether commercial, professional, or societal have an opportunity to make representations at the national meeting stage where they can send representatives to the meeting or provide comment on the draft produced for that meeting. Peer reviewers are asked to complete a declaration of interests form.

The comments received from peer reviewers and others are carefully tabulated and discussed with the Chair and with the guideline development group. Each point must be addressed and any changes to the guideline as a result noted or, if no change is made, the reasons for this recorded.

As a final quality control check prior to publication, the guideline and the summary of peer reviewers' comments are reviewed by the SIGN Editorial Group for that guideline to ensure that each point has been addressed adequately and that any risk of bias in the guideline development process as a whole has been minimised. Each member of the guideline development group is then asked formally to approve the final guideline for publication.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Appropriate management and rehabilitation of adults with brain injury
- Access to appropriate and timely specialist assessment and rehabilitation can have a positive impact on outcomes.
- In relation to attention, there is evidence that impairment focused training (e.g., computerised attention training) may produce small beneficial effects in the post-acute phase after traumatic brain injury (TBI), although evidence for generalisation of these effects is weak.
- Patients who have access to services providing interdisciplinary rehabilitation in their community demonstrate benefits that outlive the treatment period in comparison to those who have 'usual care'.
- A quantitative synthesis of 26 studies (n=3,688) which used a wide range of interventions indicated that patients who received vocational rehabilitation (VR) returned to work quicker than patients who had no VR (mean percentage successful adjusted return to work 71% v 47%).
- A systematic review and a randomised control trial (RCT) suggest that training communication partners to improve communication with people after acquired brain injury (ABI) is beneficial.
- One RCT (n=17) showed tizanidine was more effective than placebo in treating both upper limb and lower limb spasticity in patients with ABI.
- A before and after comparison reported that baclofen was effective in reducing lower limb spasticity but not upper limb spasticity in patients with brain injury (n=35).
- Planned discharge for patients with brain injuries has been associated with:
 - Improvement in knowledge of their disability
 - Improvement in Mayo Portland Adaptability Inventory results
 - Improvement in functional status
 - Slight decrease in mortality rates
 - Improvement in Activities of Daily Living scores
 - Improvement in psychological re-integration and global functioning

Potential Harms

- Walking aids may have adverse effects on gait pattern, safety and the achievement of independent walking (without an aid).
- Adverse effects noted in both oral baclofen or tizanidine include drowsiness, dizziness, dry mouth, gastrointestinal disturbances and hypotension. The efficacy and dosing schedules for these drugs vary unpredictably from patient to patient.
- Baclofen should be used with caution in the following groups: patients with psychiatric illness, Parkinson's disease, cerebrovascular disease, respiratory impairment, epilepsy, history of peptic ulcer (avoid oral route in active peptic ulceration), diabetes, hypertonic bladder sphincter and the elderly.
- Tizanidine should be used with caution in the elderly and in those where there is concomitant administration of drugs that prolong QT interval.

Qualifying Statements

Qualifying Statements

- This guideline is not intended to be construed or to serve as a standard of care. Standards of care are determined on the basis of all clinical data available for an individual case and are subject to change as scientific knowledge and technology advance and patterns of care evolve. Adherence to guideline recommendations will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgement must be made by the appropriate healthcare professional(s) responsible for clinical decisions regarding a particular clinical procedure or treatment plan. This judgement should only be arrived at following discussion of the options with the patient, covering the diagnostic and treatment choices available. It is advised, however, that significant departures from the national guideline or any local guidelines derived from it should be fully documented in the patient's case notes at the time the relevant decision is taken.
- Recommendations within this guideline are based on the best clinical evidence. Some recommendations may be for medicines prescribed

outwith the marketing authorisation (MA) also known as product licence. This is known as 'off label' use.

Medicines may be prescribed off label in the following circumstances:

- For an indication not specified within the marketing authorisation
- For administration via a different route
- For administration of a different dose
- For a different patient population

An unlicensed medicine is a medicine which does not have MA for medicinal use in humans.

Generally the off label use of medicines becomes necessary if the clinical need cannot be met by licensed medicines within the marketing authorisation. Such use should be supported by appropriate evidence and experience.

"Prescribing medicines outside the conditions of their marketing authorisation alters (and probably increases) the prescribers' professional responsibility and potential liability."

The General Medical Council (GMC) recommends that when prescribing a medicine off-label, doctors should:

- Be satisfied that such use would better serve the patient's needs than an authorised alternative (if one exists)
- Be satisfied that there is sufficient evidence/experience of using the medicines to show its safety and efficacy, seeking the necessary information from appropriate sources
- Record in the patient's clinical notes the medicine prescribed and, when not following common practice, the reasons for the choice
- Take responsibility for prescribing the medicine and for overseeing the patient's care, including the monitoring the effects of the medicine

Non-medical prescribers should ensure that they are familiar with the legislative framework and their own professional prescribing standards.

Prior to any prescribing, the licensing status of a medication should be checked in the current version of the British National Formulary (BNF). The prescriber must be competent, operate within the professional code of ethics of their statutory bodies and the prescribing practices of their employers.

Implementation of the Guideline

Description of Implementation Strategy

Implementation of national clinical guidelines is the responsibility of each NHS Board and is an essential part of clinical governance. Mechanisms should be in place to review care provided against the guideline recommendations. The reasons for any differences should be assessed and addressed where appropriate. Local arrangements should then be made to implement the national guideline in individual hospitals, units and practices.

The National Managed Clinical Network for Acquired Brain Injury (SABIN) is a Scottish national network established by the National Services Division in 2007. Its aim is to improve access to and the quality of services for children and adults with ABI. The Network will support the launch of the SIGN guideline through a combination of education events and other means of raising awareness and reference to the guideline. Full details will be available from the SABIN website (www.sabin.scot.nhs.uk).

Refer to section 12 of the original guideline for information on resource implications associated with implementing the key clinical recommendations, and advice on audit as a tool to aid implementation.

Implementation Tools

Quick Reference Guides/Physician Guides

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Scottish Intercollegiate Guidelines Network (SIGN). Brain injury rehabilitation in adults. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2013 Mar. 68 p. (SIGN publication; no. 130). [193 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2013 Mar

Guideline Developer(s)

Scottish Intercollegiate Guidelines Network - National Government Agency [Non-U.S.]

Source(s) of Funding

Scottish Executive Health Department

Guideline Committee

Guideline Development Group

Composition of Group That Authored the Guideline

Guideline Development Group: Ms Ailsa McMillan, Lecturer, Division of Nursing, Occupational Therapy and Arts Therapies, School of Health Sciences, Queen Margaret University, Edinburgh (*Chair*); Dr Gillian Baer, Senior Lecturer, Division of Physiotherapy, School of Health Sciences, Queen Margaret University, Edinburgh; Mrs Avril Beattie, Clinical Coordinator, Centre for Brain Injury Rehabilitation, Royal Victoria Hospital, Dundee; Dr Alan Carson, Consultant Neuropsychiatrist, Astley Ainslie Hospital, Edinburgh; Ms Mary Edwards, Speech and Language Therapist, Royal Hospital for Sick Children, Glasgow; Professor Jonathan Evans, Professor of Applied Neuropsychology, Glasgow University; Dr Andrew

Harrison, Clinical Neuropsychologist, Astley Ainslie Hospital, Edinburgh; Ms Shiona Hogg, AHP Manager for Rehabilitation, Falkirk Community Hospital; Dr Roger Holden, Consultant in Rehabilitation Medicine, Dumfries and Galloway Royal Infirmary; Dr Roisin Jack, Clinical Psychologist (Neuropsychology), Craig Court Neurorehabilitation Unit, Aberdeen; Ms Vicky Mayer, Speech and Language Therapist, Astley Ainslie Hospital, Edinburgh; Ms Gaille McCann, West Scotland Regional Coordinator, Headway, Edinburgh; Dr Gordon McLaren, Consultant in Public Health Medicine, NHS Fife, Leven; Mr Donald McLean, Coordinator/Superintendent Physiotherapist, Falkirk Community Hospital; Miss Jacqueline McPherson, Paediatric Neurology Nurse Specialist, Royal Hospital for Sick Children, Edinburgh; Dr Moray Nairn, Programme Manager, SIGN; Mrs Lynne Smith, Evidence and Information Scientist, SIGN; Miss Angela Sprott, Acquired Brain Injury Service Coordinator, West Dunbartonshire Council; Ms Dorothy Strachan, Clinical Services Manager, Momentum Pathways, Aberdeen; Dr Alastair Weir, Consultant in Rehabilitation Medicine, Southern General Hospital, Glasgow; Mrs Jenny Williams, Carer, Isle of Lewis

Financial Disclosures/Conflicts of Interest

Declarations of interests were made by all members of the guideline development group. Further details are available from the Scottish Intercollegiate Guidelines Network (SIGN) Executive.

Guideline Status

This is the current release of the guideline.

Any updates to the guideline that result from the availability of new evidence will be noted on the [Scottish Intercollegiate Guidelines Network \(SIGN\) Web site](#) .

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the [Scottish Intercollegiate Guidelines Network \(SIGN\) Web site](#).

Availability of Companion Documents

The following are available:

- Quick reference guide: Brain injury rehabilitation in adults. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2013 Mar 2 p. Available in Portable Document Format (PDF) from the [Scottish Intercollegiate Guidelines Network \(SIGN\) Web site](#) .
- SIGN 50: A guideline developer's handbook. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2008 Jan. (SIGN publication; no. 50). Electronic copies available from the [SIGN Web site](#) .

Patient Resources

None available

NGC Status

This summary was completed by ECRI Institute on April 23, 2013. The information was verified by the guideline developer on April 25, 2013.

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Readers with questions regarding guideline content are directed to contact the guideline developer.